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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,078	03/01/2000	Zsolt Istvan Hertelendy, Pharm.D.,Ph.D	45061-8	3549

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CHARLES A. CREHORE
ULMER & BERNE, LLP
1300 EAST NINTH STREET SUITE 900
CLEVELAND, OH 44114

EXAMINER	
PORTNER, VIRGINIA ALLEN	
ART UNIT	PAPER NUMBER
1645	20

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/516,078	Applicant(s) Hertelendy et al
	Examiner Portner	Art Unit 1645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Apr 9, 2003*.

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-13 and 17-20* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-13 and 17-20* is/are rejected.

7) ☒ Claim(s) *7, 12, 13, and 18* is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *19*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claims 14-16 have been canceled.

Claims 1-4,9-13, 17, 19-20 have been amended.

Claims 1-13, 17-20 are pending and under consideration.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Prosecution Application

2. The request filed on April 9, 2003 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/516,078 is acceptable and a CPA has been established. An action on the CPA follows.

Information Disclosure Statement

3. The information disclosure statement filed July 8, 2003 has been considered.

Rejections Withdrawn

4. Claims 1-3, 13 rejected under 35 U.S.C. 112, second paragraph for reciting the phrase "other antigenic determinants or combinations thereof", in light of the fact that the "other antigenic determinants not having been defined or clarified, in light of the amendment removing this phrase from the claims.

5. Claim 4 rejected under 35 U.S.C. 112, second paragraph for reciting the phrase "is generated from known genetic information", in light of the genetic material that is vaccine information not having been clearly defined in the claims, in light of the amendment removing this phrase from the claims.

6. Claims 1-4, 6, 10-11,17 rejected under 35 U.S.C. 102(a) as being anticipated by Uehling et al (June 1997, different inventive entity), in light of the submissions of the Declarative evidence provided by Dr. Hertelendy, Dr. Uehling and Dr. Weiner.

Rejections Maintained

7. Claims 1-13,17-20 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for formulation of suppository based compositions that comprises antigens and adjuvants for stimulation of an immune response in humans or animals, does not reasonably provide enablement for any and all antigens to be used in a suppository based delivery system for the stimulation of a protective immune response that prevents infection . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

8. Claims 1-6,10-11 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over . Beck et al (US Pat. 4,756,907) in view of Singh (US Pat. 5,858,371),for reasons of record in paper number 3, paragraph number 15.

9. Claims 17 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over . Beck et al (US Pat. 4,756,907) in view of Azria (US Pat. 5,858,371), for reasons of record in paper number 3, paragraph number 16.

10. Claims 1-5, 8-9, 17, 19 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Beck et al (US Pat. 4,756,907) in view of Mizuno et al (US Pat. 4,462,984)for reasons of record in paper number 3, paragraph number 17.

Response to Arguments

11. Applicant's arguments filed April 16, 2003 have been fully considered but they are not persuasive.

12. The rejection of claims 1-13, 17-20 under 35 U.S.C. 112, first paragraph (scope) is traversed on the grounds that "Claims 1,2,3,13 and 17 have been amended to delete reference to "other antigenic determinants" and "have been amended by deleting"consists of" and inserting therefor "comprises" at the noted lines".

13. It is the position of the examiner that the scope of enablement rejection was not a total lack of enablement for induction of an immune response, but a rejection over the induction of a protective immune response using any antigen and all antigen to induce an immune response that prevents or treats any and all types of disease. This rejection could be obviated by amending the claims to recite --immunogenic composition-- and delete the term "vaccine" and the recited intended use of "for prophylaxis against or treatment of urogenitally and anorectally transmitted infectious disease in humans and animals" ; --A suppository based delivery system for induction of an immune response, said suppository comprising:--

The scope of enablement rejection is maintained for reasons of record in paper number 13, paragraphs 19-24.

14. The rejection of claims 1-6, 17 under 35 U.S.C. 103(a) as being unpatentable over Beck et al (US Pat. 4,756,907) in view of Singh (US Pat. 5,858,371) is traversed on the grounds that "there is no teaching or suggestion of applicants' suppository based vaccine system using nucleic acids, proteins or lipids, which are much smaller than the 10 to 100 um (10,000 to 1000 nm) size of Beck et al.'s microparticles".

15. It is the position of the examiner, that Beck et al discloses a suppository formulated for administration to the vagina of a women, a "urogenital" cite associated with genital reproduction, and the size of the suppositories now claimed (Instantly claimed subject matter of claims 1-6 and

17) are not size limited; Applicant's arguments are not commensurate in scope with the instantly claimed invention.

16. The combination of Beck et al in view of Singh is traversed on the grounds that Singh et al only teaches "compositions for treatment of anorectal and colonic diseases, and that vaccines are neither taught nor suggested"

17. It is the position of the examiner that a vaccine is a composition that is for treatment of a condition, infection or disease. Beck et al teaches vaccine compositions for treatment formulated into suppositories (antigen concentration, from 0.5 to 1 mg/day see col. 12, lines 1-2 and col. 13, lines 7-10) and Singh (see Singh et al col. 5, lines 3-10 (combinations of base components, col. 5, lines 9-10 (PEG and polysorbate and gelatin (instant claim 11)) and col. 4, lines 27-36, col. 4, lines 1-7; col. 4, line 43 (derivative of boric acid, instantly claim 10)), teaches suppositories for treatment of a condition; clearly Beck et al and Singh are analogous art and Singh et al teaches the advantages of suppositories that comprise both polyethylene glycol and polysorbate as defining a delivery system for anorectal and colonic diseases which are safe, painless and effectively administered to a host through an orifice (see Singh et al, col. 2, lines 38-40 and lines 43-52). Singh et al was not cited for disclosing specific immunogen but for teaching additional materials for suppository formulation. The rejection is maintained for reasons of record in paper numbers 3 and 13.

18. The rejection of claims 17 and 19 under 35 U.S.C. 103(a) as being unpatentable over Beck et al (US Pat. 4,756,907) in view of Azria (US Pat. 5,858,371) is traversed on the grounds that the size of the suppositories of Beck et al are too small for the recited antigens of the claims.

19. It is the position of the examiner that Beck et al claims suppositories that comprise the microparticles and therefore teaches the incorporation of an antigen obtained from a virus or a bacterial pathogen (see Beck et al claims 11, 21-22, 26, 56 and 61) into a micro particle that is then formulated into a suppository composition (see col. 22, claim 42) that comprises a polyglycolic acid.

The size limitations used to traverse the applied prior art is not commensurate in scope with the instantly claimed invention , and the suppositories of Beck et al comprise the microparticles. The suppositories are therefore not limited to the size of the microparticles which they contain and would be larger than the microparticles as the suppositories contain a plurality of microparticles for delivery.

20. The rejection over the combination Beck in view of Azria is traversed on the grounds that Azria et al does not teach vaccine containing suppositories.

21. It is the position of the examiner that Beck et al teaches vaccine compositions for treatment formulated into suppositories, and Azria teaches suppositories for treatment of a condition. Clearly Beck et al and Azria are analogous art and Azria et al teaches suppositories that comprise both polyethylene glycol and polysorbate as defining a delivery system (Azria et al, col. 1, lines

48-48) for treatment of a medical condition. The suppositories of Azria are well tolerated and readily administered to a host through an orifice (see Azria, col. 3, lines 45-46). Azria et al was not cited for disclosing specific immunogen but for teaching additional materials for suppository formulation. The rejection is maintained for reasons of record in paper numbers 3 and 13.

22. The rejection of claims 17, 19 and 20 under 35 U.S.C. 103(a) as being unpatentable over Beck et al (US Pat. 4,756,907) in view of Mizuno et al (US Pat. 4,462,984) is traversed on the grounds that Mizuno et al provides "[O]nly vague statements" "regarding "insertion of the suppository into the human body" and "liberation of the drug component", and asserts that Mizuno et al neither teaches nor suggests applicants' vaccines for urogenital and anorectal disease.

23. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

It is the position of the examiner that there is motivation to combination the teachings of Beck in view of Mizuno et al (US Pat. 4,462,984) because Mizuno et al show suppository base compositions that comprises about 80% by weight of polyethylene glycol (teach a range from about 40-90% of the base (see col. 3, line 9) and average molecular weights of 300, 400, 1500, and 3000 for PEG (polyethylene glycol, see Table 1, col. 4, lines 36-41 and col. 5, line 9 Footnote

PEG and Table II)) which have excellent moldability and storage stability and the person of ordinary skill in the art would have been motivated to produce suppository based vaccine delivery systems that are stabile and readily moldable into the desired shape to aid in insertion of the suppository into an animal or human.

Mizuno et al was not cited for disclosing specific immunogen but for teaching additional materials for suppository formulation. The rejection is maintained for reasons of record in paper numbers 3 and 13.

New Grounds of Rejection

Claim Rejections - 35 U.S.C. § 102

24. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al (US Pat. 5,783,194) as evidenced by US 20020034498.

Brown et al disclose the instantly claimed invention directed to suppositories that comprise a viral antigen (active agent present in the range of about 0.5 to about 10% by weight, preferably about 1 to 2 % by weight, see col. 7, lines 26-27), for induction of an immune response to include a vaccine protective immune response, wherein the (see Brown et al, col. 7, lines 23-31) suppository base is a polyalkalene glycol (see Brown et al, col. 7, lines 24-25), thus defining a genus of suppository bases which inherently includes polyethylene glycol. US 20020034498 provides evidence that polyalkalene compounds include polyethylene glycol (see Detailed Description section, page 3, paragraph [0049]). The recited intended use of the claimed suppositories does not define over the disclosure of the prior art as the recited antigens of the

claims have not been distinguished from the antigens of Brown et al. Inherently Brown et al anticipates the instantly claimed invention.

25. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Rovinski et al (WO98/44788) as evidenced by US 20020034498.

Rovinski et al disclose the instantly claimed invention directed to suppositories that comprise a viral antigen (HIV like particles, see page 15, paragraph 2), for induction of an immune response to include a vaccine protective immune response.

Rovinski et al disclose the utilization of the suppository base polyalkalene glycol (see WO98/44788, page 15, lines 25-29), thus defining a genus of suppository bases which inherently includes polyethylene glycol, in light of the evidence provided by US 20020034498 that polyalkalene compounds include polyethylene glycol (see Detailed Description section, page 3, paragraph [0049]). The recited intended use of the claimed suppositories does not define over the disclosure of the prior art as the recited antigens of the claims have not been distinguished from the antigens of WO98/44788. Inherently WO98/44788 anticipates the instantly claimed invention.

26. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Lingwood (US Pat. 6,218,147) as evidenced by US 20020034498.

Lingwood disclose the instantly claimed invention directed to suppositories that comprise a bacterial antigen (Haemophilus adhesin protein, title), for induction of an immune response to include a vaccine protective immune response.

Lingwood disclose the utilization of the suppository base polyalkalene glycol (see col. 6, lines 11-49, especially lines 41-45), thus defining a genus of suppository bases which inherently includes polyethylene glycol, in light of the evidence provided by US 20020034498 that

polyalkalene compounds include polyethylene glycol (see Detailed Description section, page 3, paragraph [0049]). The recited intended use of the claimed suppositories does not define over the disclosure of the prior art as the recited antigens of the claims have not been distinguished from the bacterial constituent of Lingwood. Inherently Lingwood anticipates the instantly claimed invention.

27. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Melman (US Pat. 5,853,767) as evidenced by either Kondo (US Pat. 4,221,705) or Konishi et al (US Pat. 4,360,593).

Melman disclose the instantly claimed invention directed to suppositories that comprise a bacterial cellular constituent, specifically antibiotics (see col. 5, line 37); the antibiotics include peptide antibiotics which are effective against vaginal pathogens as evidenced by Kondo (US Pat. 4,221,705, see title, col. 2, lines 1-2) or Konishi et al (US Pat. 4,360,593, see title, col. 9, lines 50-67, Table 6, especially col. 9, lines 58-60), for treating microbial pathogens of the vagina (see Melman, col. 6, lines 13-27).

The disclosed suppository bases include polyethylene glycol (see Melman, col. 4, lines 64-67 and col. 5, lines 1-15, especially line 2). The suppository compositions also include polysorbate (see Melman et al, col. 5, line 29), boric acid (see Melman, col. 5, line 40) and glycerin (see Melman, col. 5, line 65). The recited intended use of the claimed suppositories does not define over the disclosure of the prior art as the recited antigens of the claims have not been distinguished from the bacterial cellular constituent of Melman. Inherently Melman anticipates the instantly claimed invention.

Allowable Subject Matter

28. Claim 7 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first paragraph (scope of enablement), set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

29. Claims 12 and 13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, first paragraph (scope of enablement), set forth in this Office action.

Conclusion

30. This is a non-final action.

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Pat. 6,383,471 is cited to show suppositories that comprise vitamin-K (bacterial constituent), polyethylene glycol, polysorbate, and boric acid .

32. Chan et al (US Pat. 6,585,980) is cited to show suppositories that comprise Campylobacter FlaC antigen, as an immunogen.

33. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginny Portner whose telephone number is (703)308-7543. The examiner can normally be reached on Monday through Friday from 7:30 AM to 5:00 PM except for the first Friday of each two week period.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith, can be reached on (703) 308-3909. The fax phone number for this group is (703) 308-4242.

The Group and/or Art Unit location of your application in the PTO will be Group Art Unit 1645. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to this Art Unit.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Vgp

September 8, 2003

LYNETTE R. F. SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600